

REMARKS

The present amendment is submitted in conjunction with a Request for Continued Examination (RCE) and in response to the final Office Action dated March 30, 2009, which set a three-month period for response. Filed herewith is a Request for a One-month Extension of time, making this amendment due by July 30, 2009.

Claims 1-4 and 7-8 are pending in this application.

In the final Office Action, claims 1-4, 7 and 8 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claims 1-4 and 7-8 were rejected under 35 U.S.C. 112, second paragraph, for being indefinite. Claims 1-8 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,243,532 to Tsujimura et al. Claims 3 and 4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujimura.

Turning first to the rejections under Section 112, first and second paragraph, the Applicants respectfully disagree that the term "limp-home mode" is not described in such a way as to enable one to make and/or use a limp home mode. The term "limp—home mode" is a term of art in the field of automotive technology. As would be known to the practitioner in this field, the term limp-home mode refers to an operation state of the vehicle's engine when the vehicle computer gets a reading from a sensor that is obviously wrong; the computer then will "assume" a value that it "knows will work". On the earliest computer controlled cars with feedback carburetors, if the computer got bad readings from

sensors, it would run the carburetor at the richest setting. While the drive would get bad gas mileage, the car WOULD run. The computer would then turn on an amber "CHECK ENGINE" light. It would also store a trouble code in its memory telling what sensor was giving a "bogus" reading. The newer computers are much more sophisticated, and just because a "CHECK ENGINE" light comes on, it does not actually mean the computer is totally in a "limp home mode".

Depending on what sensor reading is not conforming to specifications, the computer may still be able to adequately control the engine. For example, some cars can have the "CHECK ENGINE" light come on if the gas cap is not tightened adequately after filling up.

Thus, the term "limp-home mode" is a term of art which refers to a state of the vehicle's operating system to which the vehicle's computer will switch if predetermined events occur, as defined in the pending claims.

Further disclosure of this term is not believed necessary for one skilled in the art to understand the invention.

The same is true for the term "output stage". Again, this term is a term of art in the relevant technical field of automotive technology and refers to the "working stage" or output side of a fuel injection device.

The Applicant directs the Examiner's attention to the specification at page 1, third paragraph, page 4, lines 15-22; page 6, last paragraph; page 7, lines 7-18; and page 3, lines 10-11 for clarification of both of the terms "limp-home mode" and "output stage".

Claims 3 and 4 were amended to provide change “the fuel pressure” to “a fuel pressure”.

Looking next at the substantive rejection of the claims, claims 1 and 7 have been amended to more clearly define the present invention over the art of record by adding a portion of the features of claims 3 and 4, which have been amended accordingly. Claim 1 now defines further the steps of *detecting a mechanical malfunction of the injection device when a misfiring cylinder is detected; and detecting an electrical malfunction of the injection device if cylinders assigned to the output stage of the injection device misfire.*

The reference to Tsujimura et al shows a method for monitoring an injection device of an internal combustion engine. The injected fuel mixture and the air/fuel ratio are monitored in order to recognize whether a normal combustion or a misfire has occurred. If a misfire is detected, the air/fuel ratio is altered in the direction of a “fat” or “rich” ratio. If the misfire persists, an error is detected.

In contrast, the present invention relates to a method that monitors whether a misfire is present. If only one misfire occurs with a cylinder, a mechanical error of the corresponding injector is detected. If misfires occur with multiple cylinders, an electrical error is detected. This means that based on the number of cylinders in which a misfire has occurred, different errors are detected. This is disclosed, for example, on page 5, lines 16-18 of the specification.


The Applicants respectfully submit that claims 1 and 7 as amended are therefore not anticipated by nor rendered obvious over Tsujimura. A claim is

anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. ***Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.***, 221 USPQ 481, 485 (Fed. Cir. 1984).

The application in its amended state is believed to be in condition for allowance. Action to this end is courteously solicited. However, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,



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